DOES MULTICRITERIA DECISION ANALYSIS OF MEDICAL DEVICES IMPROVE THE OBJECTIVITY OF REIMBURSEMENT DECISIONS IN HUNGARY?

	Item	Max. score
1	**Health care priority**	**20**
1.1	Public health programmes (children's health, cancer, cardiovascular disease, mental health)	6
1.2	Policy priorities (telemedicine, techniques reduce hospitalisation, minimal/non-invasive techniques, rehabilitation, prevention)	7
1.3	Total health gain	7
2	**Severity of disease**	**15**
	Acute disease with life threatening consequences	13-15
	Chronic disease with life threatening consequences	10-12
	Acute disease without life threatening consequences	8-9
	Chronic disease without life threatening consequences	6-7
3	**Equity**	**15**
3.1	Number of patients	8
3.2	Access to device	7
4	**Cost effectiveness and Quality of life**	**30**
4.1	Incremental cost effectiveness ratio	15
4.2	Health gain/patient	15
5	**Budget impact**	**10**
6	**Level and type of International and Hungarian Professional Evidence**	**10**
6.1	Opinion of Professional College	3
6.2	International experience	3
6.3	Level of scientific evidence	4
	Total health gain	**100**

Research of the application of MCDA on medicines

- It was tested in 30 former evaluated dossier of medicine.
- Aim: choosing dossiers with different type of cost-effectiveness analysis (CCA, CMA, CEA, CUA)
- Focusing on the budget impact, the health benefit and keep confidentiality

The conclusions of the research

- The scoring system consists of less relevant aspects for medicines, due to it was developed for medical devices and procedures.
- Development of one scoring system of all technologies is difficult, due to the diversity of technologies.
- Even so the MCDA:
  - increases transparency,
  - considers other aspect beside the cost-effectiveness and budget impact analysis.
- It would be a huge challenge to implement the MCDA in the daily practice.

Thank you for your attention!

GYEMSZI
National Institute for Quality- and Organizational Development in Healthcare and Medicines

New Oral Anticoagulants in atrial fibrillation - consultation paper

Veronika Dóczy
25.11.2013

Purpose

- to present an example for the consultancy work of GYEMSZI TEI
- impact of NOACs in AF
  - AF one of the most frequent CV disease → large population
  - severe consequences (e.g. stroke) → high disease burden
  - new era of the treatment: new generation of anticoagulants
  - significant BI
- important health policy issue
- GYEMSZI TEI
  - evaluated
    - the relative effectiveness and
    - cost-effectiveness of this new group of medicines
  - to provide
    - evidences and
    - an international review for the decision making process

Content

- **anticoagulation in AF**
- relative efficacy / effectiveness
- cost-effectiveness
- BI
- summary / conclusions

Anticoagulation

	VKA	NOAC
Proven efficacy		
Low bleeding risk		
Fixed dosing		
Good oral bioavailability		
No routine monitoring		
Reversibility		
Rapid onset of action		
Little interaction with drugs or food		
Antidote available		

NOACs in AF

- reimbursement submissions of 3 new agents
  - apixaban (Eliquis)
  - dabigatran etexilate (Pradaxa)
  - rivaroxaban (Xarelto)
- submissions focused mostly on the comparison of
  - NOAC vs. VKA
- our goal: help to determine and present the evidence for the differences between the NOACs
  - NOAC vs. NOAC

Content

- anticoagulation in AF
- **relative efficacy / effectiveness**
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Approved indications

		EMA	FDA	CA
apixaban	2,5 mg	+	+	+
	5 mg	+	+	+
dabigatran	75 mg	-	+	-
	110 mg	+	-	+
	150 mg	+	+	+
rivaroxaban	5 mg	-	-	-
	10 mg	-	-	-
	15 mg	+	+	+
	20 mg	+	+	+

Guidelines

	ACCF/AHA/HRS	CCS	ESC
$CHADS_2$ score 0	Aspirin	Aspirin or none[a]	Evaluate further with CHA_2DS_2-VASc score; none or aspirin
$CHADS_2$ score 1	Aspirin or warfarin/ dabigatran[b]	Dabigatran/ warfarin[c] or aspirin	Evaluate further with CHA_2DS_2-VASc score
$CHADS_2$ score ≥2	Warfarin or dabigatran[b]	Dabigatran or warfarin[c]	Anticoagulation[d]
CHA_2DS_2-VASc score	Not used	Not used	0=none 1=anticoagulation or none >1=anticoagulation

a: No prophylaxis may be appropriate in selected young patients with no stroke risk factors.
b: Dabigatran is **useful as an alternative** to warfarin.
c: Dabigatran is **preferred over** warfarin in most patients; aspirin is a reasonable alternative for some.
d: Dabigatran may be **considered as an alternative** to vitamin K antagonists.

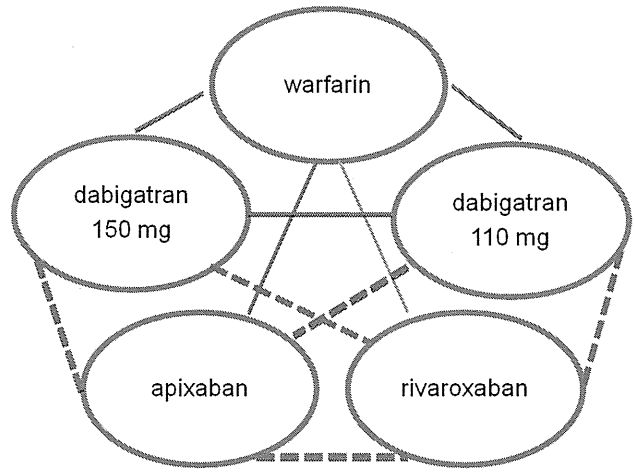
Efficacy of NOACs vs. VKA

- NOACs attractive alternatives to warfarin / aspirin – PIVOTAL trial results
  - apixaban:
    - superior (stroke and mortality + major bleeding) vs VKA
    - similar with a bleeding risk vs ASA
    - better tolerability
    - no reduction in ischemic stroke vs VKA
  - dabigatran 150 mg:
    - reduction of hemorrhagic, ischemic stroke and systemic embolism
    - similar risk of major bleeding
    - reduced risk of intracranial bleeding
    - specific side effects
  - dabigatran 110 mg:
    - older patients and/or those with poor renal function
  - rivaroxaban:
    - non-inferior (stroke prevention + major bleeding)
    - lower risk of intracranial bleeding
    - higher rate of GI bleeding in this population
    - once-daily regimen

Relative efficacy / effectiveness

- methods:
  - systematic literature review:
    - meta-analysis
    - indirect comparison
  - grey literature:
    - expert opinions
    - international HTAs
    - international practice for reimbursement
    - guides on practice

Meta-analysis and indirect comparisons



Meta-analysis and indirect comparisons

Capodanno Int J Cardiol. 2012 Apr 9.	50 578	RE-LY, ROCKET-AF, ARISTOTLE	NOACs vs W
Dentali Circulation. 2012 Nov 13;126(20):2381-91.	54 875	RE-LY, ROCKET-AF, ARISTOTLE, Chung 2011, PETRO, Weitz 2010, NCT01136408, Yamashita 2012, ARISTOTLE-J, NCT00973245, NCT00973323, J-ROCKET-AF	NOACs vs W
Miller Am J Cardiol. 2012 Aug 1;110(3):453-60	44 563	RE-LY (D150), ROCKET-AF, ARISTOTLE	NOACs vs W
Testa QJM. 2012 Oct;105(10):949-57.	50 578	RE-LY, ROCKET-AF, ARISTOTLE	NOACs vs W
Baker Circ Cardiovasc Qual Outcomes. 2012 Sep 1;5(5):711-9.	44 733	PETRO, RE-LY (D150), ROCKET-AF, ARISTOTLE	NOAC vs NOAC
Biondi-Zoccai HSR Proc Intensive Care Cardiovasc Anesth. 2013;5(1):40-54.	52 701	RE-LY, ROCKET-AF, ARISTOTLE, Chung 2011, PETRO, Weitz 2010	NOAC vs NOAC
Harenberg Int Angiol. 2012 Aug;31(4):330-9.	50 550	RE-LY, ROCKET-AF, ARISTOTLE	NOAC vs NOAC
Lip J Am Coll Cardiol. 2012 Aug 21;60(8):738-46.	50 578	RE-LY, ROCKET-AF, ARISTOTLE	NOAC vs NOAC
Mantha Thromb Haemost. 2012 Sep;108(3):476-84.	50 576	RE-LY, ROCKET-AF, ARISTOTLE	NOAC vs NOAC
Mitchell Clin Appl Thromb Hemost. 2013 May 22.	50 776	RE-LY, ROCKET-AF, ARISTOTLE	NOAC vs NOAC

Meta-analysis and indirect comparisons

- relative effectiveness
  - results are not consistent
  - no differences in mortality
  - stroke / IS stroke

		Baker	Biondi-Zoccai	Harenberg	Lip	Mantha	Mitchell
stroke/SE	A vs D150						
	A vs D110						
	A vs R						
	D150 vs R	D150		D150	D150	D150	D150
	D110 vs R						
ischaemiás stroke	A vs D150						
	A vs D110						
	A vs R						
	D150 vs R	D150					
	D110 vs R						

  - major bleedings

A vs D150	A	A	A	A	A	A
A vs D110						
A vs R	A	A	A	A	A	A
D150 vs R						
D110 vs R			D110	D110	D110	D110

Meta-analysis and indirect comparisons

- limitations
  - populations
  - different distribution of participating countries (average level of TTR - differences in the standards of care)
  - open-label design / blinding
  - follow-up periods
  - on-treatment analysis / intention to-treat analysis
  - the end of study treatment

Content

- anticoagulation in AF
- relative efficacy / effectiveness
- **cost-effectiveness**
- BI
- summary / conclusions

Cost-effectiveness

- NOAC vs. NOAC
  - the calculated health benefits differences have uncertainty
- international HTAs
  - NOAC vs. VKA may be cost-effective in certain settings, e.g.
    - patient with higher risk of stroke
    - when VKA therapy can not be managed well

Cost-effectiveness

- cost-effectiveness
  - international health technology assessments, e.g.
    - CA: 2nd line
    - NICE: recommended, rivaroxaban vs. population on KVA not in TTR
    - SMC: TTR > 60% can be achieved in the majority of patients
    - NO: different settings ($CHADS_2$ score…)
    - supporting materials for the real life and use NOACs in the practice

Content

- anticoagulation in AF
- relative efficacy / effectiveness
- cost-effectiveness
- **BI**
- summary / conclusions

Budget impact

- AF epidemiology:
  - prevalence increases with age, structural heart diseases, hypertension, obesity, diabetes, other chronic condition
- worldwide: 1–2% of the population
  - in acute stroke patients would identify AF in 1 in 20 subjects
- Hungary: 2,37–2,67% in 2007-2009
  - estimated population: 296 000 patients*

*Tomcsányi J et al. Orv. Hetil., 2012, 153, 339–342.

Budget impact

- population
  - population: 1st / 2nd line
  - ≈300 000 patients with AF (2009)
  - on treatment: 1/3 of patients (how?)
  - determine the population on VKA
    - VKA: more indications
    - data from pharmaceuticals turnover database
      - » by ICD (International Classification of Diseases)

Budget impact

- calculating the possible budget
  - different reimbursed percentage
    - 70% or 90% (→ 3x differences for patients)
    - v.s. VKA 55%
  - different market share: population size
    - 1st line / 2nd line
- raising the issue about the patient selection
- compared to VKA treatment: >10x BI

Content

- anticoagulation in AF
- relative efficacy / effectiveness
- cost-effectiveness
- BI
- **summary / conclusions**

Summary

- differences in the approved indications
- guides are not consistent
- target population: large
- disease burden: high
- need for effective treatment (TTR!)
- differences between the NOACs may exist
- uncertainty for the quantified health benefits
- „premium prices" for NOAC vs. NOAC with poor evidence

Conclusions

- NOACs may have therapeutic advantages BUT
- need to identify special subgroups
- evidences support poorly price difference between NOACs
- needs for guides in clinical practice
- reimbursement and regulation have to support best practice → NOACs just for patient who could benefit from it

Thank you for your attention!

3. ポーランド

Agency for Health Technology Assessment in Poland: AHTAPol

[A. Healthcare system]

A-1. Overview of the healthcare system in your country

A-1.1. Financial resources for public medical service coverage are based

■ Primarily on social health insurance fees
❑ Primarily on taxes
❑ On something else (please specify:)

・公的医療保険はNational Health Fund (NHF)と呼ばれる。ほぼ全ての人々が公的保険でカバーされており、保険料率は所得の9.00%。
・患者はGPを選択できるが、6ヶ月に1回しか変更できない。原則として専門医の受診はGPの紹介状が必要。
・GPあるいは専門医への支払いは原則として予算制と出来高の混合である。
・2008年からDRGシステムが導入された。

A-1.2. What is the role of private insurance companies?

❑ All individuals (or the majority) are covered by public healthcare system and few people use private insurance.
❑ All individuals (or the majority) are covered by the public healthcare system, but private insurance companies are often employed to decrease co-payment costs.
❑ Some individuals are covered only by the public healthcare system, while some are covered only by private insurance.
❑ Other (please specify:)

・公立病院が主に入院医療を提供する。私立病院はNHFと契約を結ぶことができる。

A-1.3. Medical fees paid by patients *(please specify if the system is more complicated or has some exceptions)*:

[(i) clinic/ (ii) hospital]

❑ Employ a co-payment system, for which the payment rates is __% for elderly and __% for all others

❑ Employ a deductible system, for which the amount is __ for elderly and __ for all others

■ Are basically non-existent (free of charge)

公的な医療サービス(GP、専門医、入院)は無料である。ただし、訪問診療等は自己負担あり。

A-2. Overview of drug pricing in your country

A-2.1. In your pricing system *(Please specify if the system is more complicated or has some exceptions),*

[(i) Prescription only medicine/ (ii) Hospital only medicine/ (iii) Generics]

❑ Pharmaceutical companies set drug prices (with or without regulations).

■ A governmental organization sets most drug prices.

❑ Another third-party organization (please specify:) sets drug prices.

・保健省が償還と価格付けに責任を持つ。
・製薬企業が価格とリスクシェアリングスキームについて提案を行い、保健省の経済委員会と交渉を行う。保健大臣が償還と価格について最終決定を行う。
・償還ルールについては、2011年5月の医療用品、特別な目的の食事、医療機器等の償還に関する法律により定められている。その法律によれば、償還期間は2年、3年、5年が可能である。現在のところ2年が最も一般的である。
・経済委員会(Economic Committee)が価格と償還条件(償還率(100%, 70%, 50%や償還期間(2, 3, or 5 years))を推奨する。
・病院用医薬品や、抗癌剤などは100%償還される。
・薬剤師は後発品への置換できる可能性を患者に伝えなければならない。

A-2.1. Method of drug pricing

Please elaborate on the details of the drug pricing system in your country.
(e.g., How drug prices are determined, referencing countries…)

[Prescription only medicine]/[Hospital only medicine]
・外国価格あるいは国内価格に基づく価格交渉と HTA の結果(AHTAPol が 3xGDP に収まる" threshold price" を計算する)に基づく。
・病院用医薬品は入札による。

[Generics]

・1番目の後発品:先発品の25%以上割引を要求される。

・2番目の後発品: さらに25%以上の割引を要求される。

A-2.3. Drug fees paid by patients *(Please specify if the system is more complicated or has some exceptions)*

[(i) Prescription only medicine/ (ii) Hospital only medicine/ (iii) Generics]

■ Employ a co-payment system for which the payment rate is __% for elderly and __% for all others.

■ Employ a deductible system for which the deductible is __ for elderly and __ for all others.

❑ Are free of charge

・償還率100%: 病院用医薬品、癌治療、いくつかの精神疾患、重度の感染症等

・償還率70%: 30日以内の治療のための薬剤

・償還率70%: その他

・患者負担が一定額を超えた場合は、自己負担額が低減する仕組みがある。

・1998年より参照価格制度が導入されており(ATC level 5)、参照価格との差は自己負担となる。

[B. HTA Organization]

B-1. When was the HTA organization or department established? (year)

2005 年(保健省政令)に設置され、2009 年に法律に位置づけられた(Act on health benefits financed of public funds)

B-2. Objective and history of the organization

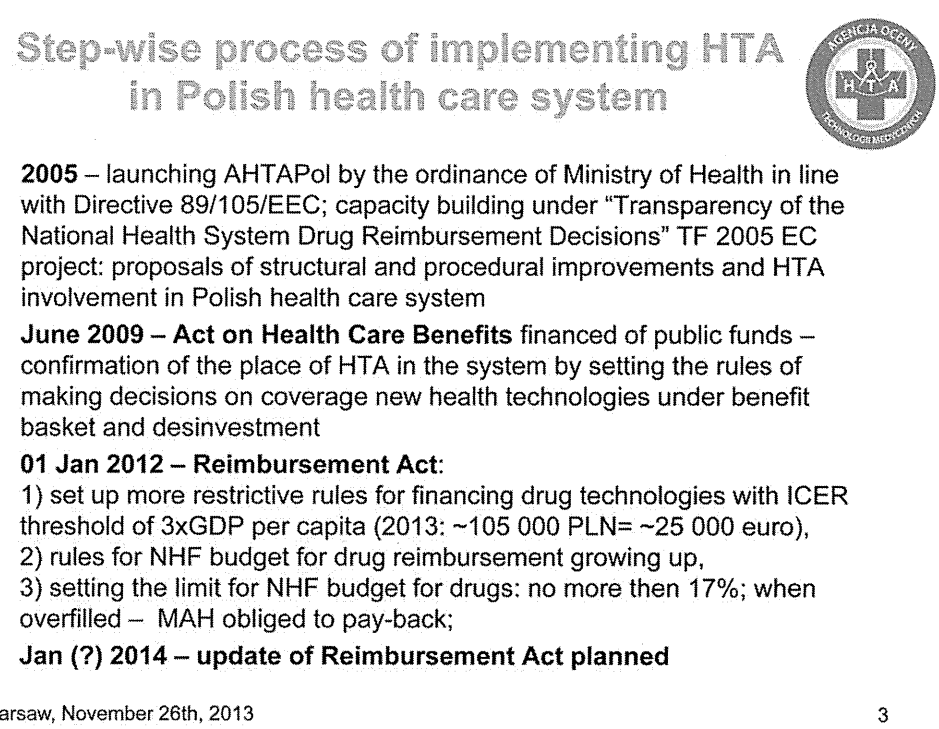
・Please list the objectives and the background history for the establishment of the HTA organization or department.

・Please describe the business content of your organization or the HTA organization or department.

・保健省の求めに応じて、医療技術や手技等に関する意思決定のための情報を提供することである。

・医薬品の場合は、新規成分が保険収載されるためにはAHTAPolの評価を受けなければならない。

・また地方政府の行うヘルスプログラムについても評価を行う。地方政府はAHTAPolの評価を受けなければならないが、それに従うことは必ずしも義務ではない。



B-3. The organization is

■ Governmental department or agency for HTA

❑ Governmental department or agency for drug approval (e.g. FDA, EMEA)

❑ A national research institute

❑ Insurer

❑ Other (Please specify:)

B-4. Budget

B-4.1. Annual budget

How much are the annual budgets for the entire HTA organization or department and for the division of economic evaluation?

年間約 1250 万ズロチ(=300 万ユーロ=4 億円)

B-4.2. Funding sources

・Does funding come from the government and/or others?

・Does funding come from pharmaceutical companies (or industry groups)?

・Do pharmaceutical companies pay for a review process?

・ 政府からの収入が約 50%、残りの 50%は企業から審査料による(1 件あたり 25,000 ユーロ)。

B-5. Staff

B-5.1. Number of staff

・How many people work for your HTA organization or department?

・What percentage of the staff is administrative?

・How many people are involved in economic evaluation or health technology assessment?

60 人、うち 45 人が分析に関係し、15 人は administrative staff

B-5.2. Breakdown of the non-administrative staff

・How many non-administrative staff members *(e.g., health economists, biostatisticians, epidemiologists, etc.)* work for your HTA organization or department?